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GENERAL DEVELOPMENT AND INTEGRATION OF METHODOLOGICAL WORK, INCLUDING DEVELOPMENT INDICATORS: DEVELOPMENT INDICATORS

Patterns of consumption and qualitative aspects of development

Report of the United Nations Research Institute for Social Development

SUMMARY

This report has been prepared in response to the request of the Statistical Commission's Working Group at its last session for a report on development indicators with a view to assisting the General Assembly and the Economic and Social Council in their appraisal of the International Development Strategy for the Fourth United Nations Development Decade and, in particular, the mid-term review. For this purpose, the Working Group requested the United Nations Research Institute for Social Development (UNRISD), in cooperation with the Statistical Division of the United Nations Secretariat, to prepare a report reviewing the discussions and findings of the UNRISD Meeting of Experts on Qualitative Indicators of Development held in Rabat, Morocco, in April 1991 as part of the project "Patterns of Consumption: Qualitative Indicators of Development".

The report focuses mainly on developments and experience in monitoring the achievement of social goals and objectives and related human development concerns by means of qualitative indicators. The introduction presents briefly the background to and impetus for the meeting under the Patterns of

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Consumption project. Chapter I describes UNRISD activities under the project since the Statistical Commission's last meeting. Chapter II reviews the major lessons and findings of the expert meeting in Rabat. Chapter III lists the recommendations of the meeting, including actions and activities to be taken by United Nations organizations.

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INTRODUCTION

1. At its twenty-sixth session, the Statistical Commission discussed patterns of consumption under its agenda item 9 (d). The Commission had before it the report of the United Nations Research Institute for Social Development (UNRISD) entitled "Case studies carried out by the United Nations Research Institute for Social Development on qualitative aspects of development and on the preparations for the planned international statistical meeting on indicators of patterns of consumption" (E/CN.3/1991/21).

2. The Commission expressed its appreciation for the high quality of the report prepared by UNRISD. It noted that the Institute did an excellent job of synthesizing useful findings and policy suggestions from the four case studies and from the Institute's past work. The Commission then stressed the need to draw lessons from the case studies for the design of new and ongoing programmes by national authorities and the international development community. Particularly useful points in the report concerned the strengths and limitations of different data sources; the need to use the available data with care and caution; the problems identified in the case studies in using unitary or composite indices; the problems caused by data overloads and high costs, brought about by ambitious survey and other statistical programmes that exceeded some countries' capacity and the considerable scope for low-cost, innovative techniques. At the same time the Commission considered it important that such innovative measurement techniques be placed in the context of ongoing statistical programmes of organizations so as to maximize the usefulness of the results obtained.

3. The Commission also noted the importance and timeliness of the planned international meeting of experts at Rabat, which would provide an opportunity to review the state of the art and recent advances in thinking on development indicators and to discuss some of the major initiatives taken by international agencies to strengthen the work on social indicators in developing countries.

4. In concluding its discussion of patterns of consumption, the Commission urged UNRISD, in cooperation with the Statistical Division of the United Nations Secretariat and other agencies, to disseminate widely the findings and lessons of the case studies contained in the report prepared by UNRISD. The Commission also emphasized the importance of linking innovative indicators and collection techniques with ongoing statistical programmes and organizations. Finally, the Commission requested the Subcommittee on Statistical Activity of the Administrative Committee on Coordination to include the item in question on the agenda of its next meeting with a view to considering how the conclusions and suggestions contained in the UNRISD report might improve ongoing work and the design of new programmes on social indicators.

5. Subsequent to the twenty-sixth session of the Statistical Commission, the Commission's Working Group at its fourteenth session noted that the expert meeting on the subject of development indicators had been held in Rabat in April 1991, that a report of the meeting had been submitted to the Economic

and Social Council by UNRISD and the Council had adopted resolution 1991/94, in which it, inter alia, requested the Statistical Commission "to keep the issue of patterns of consumption and qualitative indicators of development under consideration".

6. The Working Group decided to include development indicators on the agenda for the twenty-seventh session of the Commission as sub-item 12 (b) and requested UNRISD to prepare a document in cooperation with the Statistical Division of the United Nations Secretariat reviewing the discussions and findings of the expert meeting in Rabat.

7. The present document has been prepared in response to that request.

I. ACTIVITIES UNDER THE PATTERNS OF CONSUMPTION PROJECT SINCE THE TWENTY-SIXTH SESSION OF THE STATISTICAL COMMISSION

8. Since the Commission's twenty-sixth session, UNRISD activities under the patterns of consumption project have centred on (a) dissemination of the lessons and findings of the case studies; and (b) linking innovative indicators and collection techniques with ongoing statistical programmes and organizations. Regarding (a), a revised version of the UNRISD synthesis report on the four country case studies was published in the Institute's Discussion Paper Series. A discussion paper based on the report of the Côte d'Ivoire study was also published. 1/ Additionally, the report of the Kenya case study was published as an UNRISD monograph, and a book length manuscript on the India case study is nearing completion. 2/ The meeting of experts on social indicators held in Rabat in April 1991 also provided an opportunity to disseminate the findings and lessons of three of the four case studies, as papers on the social indicator systems of Kenya, Morocco and India were prepared for and distributed to the participants. Regarding (b), the expert meeting in Rabat provided a forum for discussing such issues and for suggesting future research in the field. Based on the recommendations of the meeting and the subsequent Economic and Social Council resolution (1991/94), UNRISD is formulating a proposal for a research project that will attempt to identify in the most practical manner possible how such techniques can be most fruitfully integrated into ongoing statistical programmes and organizations.

II. SUMMARY REPORT OF THE MEETING OF EXPERTS ON QUALITATIVE INDICATORS OF DEVELOPMENT 3/

9. The project under which the meeting in Morocco took place, "Patterns of Consumption: Qualitative Indicators of Development", was established through various resolutions and recommendations of the General Assembly, Economic and Social Council and Statistical Commission to further the development and use of qualitative indicators of development. 4/

10. The goals of the meeting in Rabat were to identify the most recent advances and shortfalls in selecting and applying qualitative indicators of development to patterns of consumption and to highlight areas in which new

research or better application of existing knowledge is needed. The meeting was also expected to provide an opportunity to discuss some of the major initiatives taken by the international agencies to strengthen the work on social indicators in developing countries.

11. The concept of "qualitative indicators of development", around which the meeting was conceived, took shape from Economic and Social Council resolution 1989/4, which focused on "numerical indicative objectives" and "the adequate level of satisfaction of basic socio-cultural needs in regard to food, housing, clothing, education, health care and necessary social services". 5/ Naturally, indicators in these areas of concern figure importantly in the broader programme for monitoring the achievement of sccial goals in the 1990s as endorsed by the Statistical Commission at its last meeting.

12. Chapter II of the report comprises five sections: section A comments briefly on the impact of recent conceptualizations of development on indicator research and considers the argument that new comprehensive indicators of development are needed. Section B reviews data problems that hamper efforts to monitor levels of living and outlines recommendations for solving a number of them. Section C reviews four examples of recent work on innovative and low-cost methods for collecting social data and cites major initiatives taken by international agencies to improve the supply and relevance of data for monitoring the achievement of social goals in the 1990s. Section D discusses new research in several fields and suggestions for improving existing indicators and the data on which they are based. Section E reviews salient points raised at the meeting concerning the role of international agencies in the collection and dissemination of development data and indicators. Chapter III of the report lists a series of concrete steps that international organizations could take to improve social data used to assess development and development policies.

13. The discussion that follows is largely based on the content of the papers prepared for the meeting in Rabat. Additional information, including selected remarks of participants and the recommendations of the three working sessions, 6/ is included as deemed appropriate. A list of the papers prepared for the meeting is attached in the annex.

A. The new development challenge and the need for new indicators

14. The keynote address emphasized the connection between ongoing efforts to reconceptualize what constitutes development and the means by which development is measured. Simply put, the speaker would have development, which is often equated with economic growth, conceived as encompassing growth that is more directly oriented to the concerns of human development. Such growth would therefore be:

(a) Participatory - allowing for private initiative and broad-based people's involvement;

(b) Distributed well - benefiting all people;

(c) Sustainable - since raising future production may demand current sacrifices. 7/

15. To measure progress in these dimensions, the speaker proposed that Governments have at their disposal improved tools of analysis with which to assess the impact of policies on human development and particularly tools for monitoring the process by which economic growth is converted into advances in human development.

16. Both the keynote address and one of the session papers (11)* highlighted these aspects of the current debate on development and its indicators and set the context for the subsequent papers and discussion. A review of these begins below with an analysis of problems that continue to plague the collection and processing of data. As long as inaccurate or out-of-date primary data form the basis upon which social indicators are constructed, the utility of even those indicators that are conceptually quite sound will be severely limited.

B. Current obstacles in the collection and processing of data for social development indicators

17. The problems associated with assembling social or qualitative indicators are many. They typically relate to the selection of what to measure, the method of measurement, and the process of collecting, computerizing and analysing the data on the phenomenon in question. Other significant problems arise at the stage of presenting and disseminating the information collected. If this is not handled effectively, resources invested in assembling information based on social indicators may have a relatively minor impact on the policy-making process. Regarding indicators in the domains enumerated in paragraph 11, a consensus on the selection of indicators and their measurement appears to be emerging. However, despite the many advances in information technology and procedures for measuring living standards and monitoring poverty, data collection and processing remains a major challenge. For this reason, the current state of social data, the major causes of their continuing unreliability or unavailability and solutions to some of these problems received considerable attention at the meeting. 8/

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* Numbers in brackets refer to the papers prepared for the Meeting. These are listed in the annex.

1. The state of existing social data

18. Recent research by the Food and Agriculture Organization of the United Nations (FAO) (6) and the Economic Commission for Latin America and the Caribbean (ECLAC) (11) highlights the paucity of quantitative data on key aspects of human welfare in many African, Asian and Latin American nations. The evidence from these and other studies discussed below suggests that most developing countries do not yet systematically collect even the most basic data, including those on mortality, food consumption, access to clean water, health care and suitable housing. Where the data are collected, their utility is often limited by a variety of defects. The papers on India (16), Kenya (10) and Zambia (15) show that data may be out of date for most decision-making purposes or unsuitable for analysis at disaggregated levels. Sometimes the data are even misleading. 9/

19. The lack of data based on observation continues to be a major problem. Data on poverty and mortality illustrate the extent of the dilemma. FAO efforts to implement the programme of action adopted at the 1979 World Conference on Agrarian Reform and Rural Development (WCARRD) involve extensive poverty monitoring. To this end, FAO has attempted to assemble from various sources direct estimates of the percentage of persons falling below the poverty line in developing countries. This has proven to be a daunting task. For example, the author notes that only recently did the World Bank publish pertinent data for the 1977-1980 period, and these covered only 37 countries. FAO efforts to fill the gaps have been less than successful. Having solicited data directly from the Governments, FAO had received direct estimates from only "some" of the 64 countries submitting WCARRD progress reports by February 1991. Mortality data are similarly patchy (13) as "less than 40 developing countries have vital registration systems recording 90 per cent or more of deaths". 10/ However, even complete vital registration systems do not guarantee accurate mortality rates. Data for some of the indicators on income, education, housing and access to community services, to name but a few core concerns, are even less available and/or amenable to accurate measurement.

2. Causes of poor social data in the 1990s

20. The basic explanation for the paucity of reliable data is that most of the statistical systems in the third world lack adequate human and financial resources. As a result, some countries do not systematically collect data; others that do may not publish them very quickly or at all. Poor management of existing resources, particularly in data collection and processing, also hampers efforts to obtain timely, high quality data.

21. Paradoxically, efforts to expand and improve statistical output may actually have the opposite effect. For example, mounting large-scale household surveys or comprehensive poverty monitoring programmes may divert resources from crucial existing or planned activities. In the case of poverty monitoring, the goal of providing adequate information for decision-making purposes requires annual, if not more frequent, collection of data that are

reliable at high levels of disaggregation. Moreover, such data, if they are to be truly useful, have to be made available to decision makers with a minimum delay. Typically, if the cost of such a programme is underestimated, and hence the project itself is underfunded, trade-offs will have to be made. Either resources will be diverted from other statistical activities, causing them to suffer, or the scope or processing speed of the monitoring programme will be reduced.

22. The experience of Kenya demonstrates the difficulty of raising the quality and quantity of social data in the context of an existing statistical programme with limited resources. 11/ It has been argued that Kenya tried to provide too much disaggregated data too fast with too few resources (10). Indeed, from the inception of the National Household Survey in 1974/75, Kenya's Central Bureau of Statistics (CBS) aggressively sought to provide highly disaggregated data, progressing from national to provincial and, finally, to district level disaggregation by the early 1980s. But the CBS had neither the financial nor the organizational resources to sustain these efforts at the district level, and, consequently, became progressively bogged down in data. As time passed and more data were collected, CBS production fell further and further behind schedule, raising concerns that much of the valuable data that had been collected would not be published.

23. But, as two participants commented, Kenya's difficulties may have owed less to unrealistically ambitious planning than to the vagaries of the national economy and technological factors. Resource constraints that prevailed in the country between 1983 and 1987 were not and could not have been anticipated at the planning stage of the survey programmes in 1980 and 1981, and innovations in data processing technology planned for 1981-1983 were not adopted until late 1988.

24. Kenya's collaboration with international agencies and donors may also have compounded problems in the statistical arena (10). It appears that in several instances the influx of external resources diverted the attention of the CBS from its primary responsibilities. In others it resulted in a net drain on CBS resources as some projects, undertaken at the behest of donors, were inadequately supported by them.

25. Austerity programmes and the effects of the economic crisis also appear to have taken a toll on statistical capacities in at least one sub-Saharan country (15). Stagnating budgets have resulted in losses of key personnel, reduced training activities, postponement of planned publications and demoralization among statistical office personnel. These developments are especially discouraging since the need for strong statistical services has never been greater.

3. Proposals for strengthening statistical capacities in developing countries

26. Efforts are urgently needed to strengthen statistical services in developing countries so that they can provide timely and accurate social data. Various interrelated direct and indirect measures for accomplishing this have been proposed, including:

(a) Reorienting existing priorities in Governments and within statistical offices;

(b) Implementing managerial and administrative reforms. 12/

27. These measures are outlined below. Statistical services can also improve the quality of their output by adopting appropriate innovative and low-cost techniques of data collection. These are discussed in section C.

Making statistics a higher priority

28. The quality of statistics suffers because policy makers are not sufficiently aware of their value. Thus, more needs to be done to convince key policy makers of the value of statistics. This would help ensure that funding of statistical operations is not the first item cut during periods of budgetary stringency.

Enhancing coordination

29. Better coordination is crucial for improving statistical services. Coordination is needed to get objectives stated clearly, to get priorities discussed and decided upon, to avoid duplication, to plan better and to ensure that pertinent points are focused upon. Coordination can also be valuable in ensuring standardization and high standards with respect to concepts, methods etc.

Statistical planning

30. Statistical plans, both five-year and annual, need to be made and reviewed accordingly. Statistical planning should be integrated into the national planning process in order to facilitate defining and asserting priorities on a continuing basis.

Training

31. Statistical services should place greater emphasis on training of national personnel at all levels and on a continuing basis. Training for middle-level employees should be considered crucial, and help is particularly needed in running training programmes for them.

Improved terms of service

32. The instability of employment in statistical services often leads to high turnover among capable employees. If qualified people are to be retained in statistical work, their terms of service and opportunities must be improved.

Computers and statistical systems in developing countries

33. In processing social data, weak management of computing resources is a greater problem than shortages of hardware or technical support. 13/ This is in part due to the complexity of integrating microcomputer-based activities into the traditional mainframe data-processing environment. International organizations and institutions may be able to provide support in this area, including research and training on appropriate tools and methodologies.

C. Innovative and/or low-cost techniques for data collection and analysis

34. As noted above, there is a critical need for improvement in the sources of data used in compiling indicators for monitoring levels of living or social progress more generally. But filling the many gaps in the data collection of developing countries can be an expensive undertaking. It is therefore necessary for countries to carefully weigh their data collection options in terms of adequacy and cost-efficiency. These options typically include population and housing censuses, administrative reporting systems (particularly civil registration systems) and household surveys. Population censuses, while providing important calibrating measurements for many indicators and a sampling frame for sample surveys, are not able to provide data for short-term trends in a timely manner. National civil registration systems, on the other hand, are ideally suited to such a task. However, as noted above, in a number of developing countries the vital statistics produced by the civil registration system are not sufficiently complete or reliable to be used for monitoring purposes. As a result, considerable reliance will have to be placed on sample surveys. In these circumstances particular account needs to be taken of other international initiatives promoting related data collection activities. These include the National Household Survey Capability Programme (NHSCP); the Demographic and Health Survey programme (DHS) sponsored by USAID; the Pan-Arab Project for Child Development (PAPCHILD) executed by the League of Arab States; the Inter-Agency Food and Nutritional Surveillance Programme (IFNS) sponsored by UNICEF, FAO and WHO; and the Living Standards Measurement Study (LSMS) and Social Dimensions of Adjustment (SDA) project executed by the World Bank.

35. Innovative and/or low-cost techniques for data collection and analysis are expected to play an important role in improving social data sources. These techniques are urgently needed by both international and national agencies for obtaining data where none exist, for shortening the delay between data collection and publication and for facilitating monitoring efforts at high levels of disaggregation. Moreover, by applying such techniques,

statistical offices may be able to accomplish more with their limited resources. The following discussion covers four recent efforts to develop and apply cost-reducing or innovative approaches to poverty monitoring. These include the World Bank's Priority Survey, Rapid Assessment Surveys of Rural Poverty, household expenditure surveys in India and an application of proxy indicators for use when household survey data are unavailable. Comments by participants and recommendations of the working session on methodological issues and innovative, low-cost techniques of data collection and management follow at the end of the section.

36. The World Bank uses a broad range of indicators to monitor the social dimensions of adjustment (SDA) in sub-Saharan Africa (9). A key component of the SDA project is the Priority Survey (PS), which provides household-level information for monitoring living conditions among target groups hypothesized to be adversely affected by adjustment policies. Although designed as part of a hierarchical data system (comprising two other surveys, the Integrated Survey (IS) and the Community Survey (CS)), the PS is of particular interest because of its stand-alone function for poverty monitoring.

37. The PS questionnaire, which is designed to be administered in under one hour, covers issues of health, education, housing, access to amenities, migration, agricultural production, non-farm activities, household expenditure and incomes, household assets, nutrition and employment. For each of these, data are collected to establish four or five indicators.

38. The brevity of the PS is expected to allow regular, if not annual, canvassing of a large sample. The larger sample size is intended to strengthen the quality of cross-sectional analysis and, hence, the prospects for identifying more precisely those groups most affected by adjustment policies. Regular canvassing is necessary for detecting trends, which is the second key goal of the PS.

39. As the PS has only recently been implemented, no definite conclusions can be drawn about its overall effectiveness. None the less, the Bank's assertion that the PS can be implemented on a sustained basis by developing countries has been challenged on the grounds that it is too complex and expensive for that to be so. Experts from countries participating in SDA programmes have also expressed scepticism about the costs and value of certain innovations inherent in these programmes. 14/

40. Rapid Assessment Surveys of Poverty (RASP) have been proposed as a quicker and less costly alternative to the PS (4). RASP employs multidimensional measures of levels of living and simplified survey and sample designs and seeks to provide rapid data processing and feedback to policy makers. Although yet to be tested empirically, RASP is expected to collect less than half as much data as the PS, in less than half as much time, and yet facilitate the production of indicators of poverty which are just as useful.

41. In addition to simplifying data collection and processing, RASP is expected to lower costs further by forgoing a nationally representative sample, since it is to be administered only in areas where the incidence of poverty is expected to be high (p=0.8). Only after selection of such an area are probability techniques applied to sample selection. This methodology remains controversial since forgoing probability techniques in the first stage of selection means that the reliability of the results cannot be estimated.

42. In response to the increasing demand for monitoring the progress of poverty alleviation at a very disaggregated level, the National Sample Survey (NSS) of India has recently begun experiments with adjustments to its annual sample surveys of consumer expenditure (16). The consumer expenditure questionnaire used for the past two decades takes on average three hours to complete, and data backlog resulting from the survey prevents it from being useful as a poverty monitoring instrument. One way of decreasing the mass of data would be to take a "thin" sample (2 households per village instead of 10, as is now done). To do so, however, would result in unreliable estimates for small states, where sampling errors would become large. Another alternative would employ a two-pronged strategy: first, strengthen the NSS so that it can generate estimates at the state level and provide important benchmarks from detailed surveys; and, second, guided by the benchmark surveys, carry out low-cost surveys for short-term monitoring purposes in specific geographic areas at the disaggregated level.

43. Three examples of low-cost surveys have been proposed, each relying on a close correlation between variables thought to move closely with the prevalence of poverty: (a) the head count ratio measure of poverty and per capita consumption (quantity) of cereals; (b) expenditure on food and nutritional deprivation at low levels of living; (c) per capita total expenditure (PCTE) and level of living. The latter would be determined by levels of a limited set of socio-economic indicators developed from components of the existing expenditure survey.

44. Many recent efforts to monitor poverty primarily rely on household survey data. It may be possible, however, to estimate changes in the incidence of poverty with proxy indicators based on existing economic time series. This approach has been proposed as an alternative to implementing costly household surveys in rural areas (17). The central premise of this approach is that movements in certain agricultural output indicators (adjusted for lag effects and expressed in terms of per head of rural population) may correlate highly enough with changes in the incidence of poverty to be used as a proxy for indicating such changes. Recent tests of this technique using data for India yielded correlations between the head count ratio of poverty incidence and outputs of cereal, foodgrains, and total crops and agricultural GDP and NDP between -.73 and -.80. 15/ Similarly, agricultural sector wage rates and real and relative price data for various foods may serve as proxy indicators.

45. Additional innovative and/or low-cost methods of data collection could be useful for improving social data sources, especially if there is neither domestic capability nor external assistance sufficient to sustain full-scale

household surveys. These include light surveys, observation or sentinel area studies, "travelling experts", use of local key informants and alternative sampling techniques (such as those employed successfully in the WHO surveys for the Expanded Programme on Immunization).

46. However, regardless of the accessibility of external resources, it is necessary to develop techniques that minimize the skills, effort and equipment required for implementing surveys, whether they be large- or small-scale. This is an area in which the National Household Survey Capability Programme is making important contributions.

47. Rapid data gathering and short surveys cannot answer all questions about local phenomena. It will therefore be necessary in many instances to conduct local in-depth investigations when a light survey reveals problems warranting rapid action by policy makers. This may help them to distinguish between real and apparent problems, to understand their causes and to identify other locations where the same factors may be causing similar effects.

48. The relative merits of the various low-cost or innovative techniques described above have yet to be sufficiently tested empirically. The participants of the working session in which these techniques were discussed felt that they should be evaluated by persons with in-depth, relevant expertise and that a meeting supported by international agencies should be organized for this purpose. They also recommended that international agencies help fund pilot experiments to test the feasibility and validity of low-cost means of collecting social data.

D. Areas for more research on data and indicators

49. The remainder of this part of the report overviews selected aspects of current and prospective research to improve the relevance of indicators and data. Some of the issues to be discussed are pertinent to well-defined indicators in priority areas of social and human concern; others are more pertinent to indicators and data where consensus on definitional and methodological questions has yet to be achieved. Special attention is given to issues of gender, social service delivery, levels of disaggregation and the role of international agencies.

1. Sectoral issues

50. The following list enumerates selected areas of concern for which research on new or supplementary methods for assessing conditions is warranted:

(a) Status of women, children and the elderly;

(b) Access to and conditions of work;

(c) Environmental degradation;

(d) Human rights and civil liberties;

(e) Democracy and participation;

(f) Civil, ethnic and labour conflicts;

(g) Crime;

(h) Access to and control of information. 16/

51. Significant obstacles to collecting data and information in these areas remain. In certain areas, a variety of approaches will be employed, though the results might not be indicators in the traditional sense. None the less, they will be the product of in-depth research and analysis and will serve some of the important functions of more traditional indicators. The following discussion of an environmental accounting framework, a freedom index and an index of democracy illustrates some of the complex issues being addressed by research on non-traditional indicators and data.

52. Numerous difficulties arise in accounting for environmental decline in theory and applying such methodologies in practice. This is demonstrated in a novel approach to allocating the costs of maintaining the atmosphere's capacity to absorb noxious gases (19). As trees contribute largely to the atmosphere's capacity to absorb greenhouse gases, the model treats forest cover as a key component of global social overhead capital or infrastructure. Since future growth and profitability are dependent in part on the quality and quantity of current investments in infrastructure, businesses and Governments are expected to assume that burden. The key feature of the model is that the costs of preserving the Earth's forest cover are allocated between developed and developing countries in a way that assures optimal and sustained growth in both. The redistributive mechanism is a pollution tax, to be levied against nations in proportion to their economic activity (for which national income per capita may serve as a proxy). The industrialized countries therefore pay higher taxes than developing countries since their industries produce greater quantities of atmospheric pollution per capita. The taxes are paid to an international body, which would distribute them to the countries where the contribution of local forests to social overhead capital exceeds taxes owed for that country's economic activity. Net income from the pollution tax is then to be used to protect the forest cover in the recipient country. While the model provides a general framework for approaching an extremely complex problem, a number of its basic assumptions warrant further examination. For example, is there an optimal time path of economic growth and, if so, how is it determined? How is the social rate of discount estimated with respect to the value of forests to future generations? How applicable is the global model at regional or local levels? What formula will be used to determine the value of different kinds of forests? What are the prospects of establishing the political will and institutions necessary to implement the tax collection and distribution system?

53. Likewise, research on the measurement of human rights and civil liberties is progressing despite the complexities involved. One output of these efforts, the human freedom index (HFI), 17/ takes into account 40 distinct criteria for measuring freedom, including freedom of movement, the rights of assembly and free speech, the rights to ethnic and gender equality, the rule of law and other democratic rights. The validity of the human freedom index can be challenged on a variety of grounds such as the weighting of individual freedoms, the comparability of the cross-national data and the methods for determining whether freedoms have been violated or not. None the less, it is a valuable contribution to the debate on how to measure a complex domain of human activity.

54. Similarly, attempts to measure the extent of democracy and participation are fraught with difficulty. One such effort combines measures of competition and participation in an index of democracy (20). Competition is defined as the share of the vote garnered collectively by the unsuccessful political parties in an election, participation as the percentage of the population casting votes in an election. The two ratios are multiplied together to produce an index, which has been calculated for 147 countries for the period of 1980-1988. The index is appealing because it is easy to compute and interpret and appears to provide comparable data cross-nationally. But it has weaknesses as well: it is more a measure of the mechanical functioning of the election process than an indicator of democratization. As such, it does not take into account the existence and strength of intermediate or voluntary organizations, which may be extremely democratic but are not part of the formal electoral process. Nor does the index measure the stability of democracy (for example, the length of time during which democratic traditions have proceeded without interruption). The effects of increasingly skewed income distribution on participation in the democratic process are not accounted for either. Finally, if the concept of democracy itself is culturally biased, then it is not applicable to all countries.

2. Gender issues in social data

55. Women's issues are an important thrust of current research on social data and indicators. Still, special attention needs to be devoted to accounting practices that improve knowledge of women's economic and socio-economic contributions in diverse societies and social milieux. Naturally, this has broad ramifications for data collection and analysis, and indeed even for the survey instruments with which data on women are collected.

56. For example, many existing surveys and censuses contain gender-biased questions which result in inaccurate information. Resolving this problem will entail activities on four fronts:

(a) Definitional: different groups may interpret terminology differently. This implies revising the concepts used throughout the process of data collection and statistical classification;

(b) Technical and methodological: survey/data collection methods influence the accuracy of data. There is thus a need to better understand how women's responses are influenced by factors such as the type of questionnaire, the age and gender of the interviewer, the extent to which respondents are proxies for others etc.;

(c) Cultural: standards and practices of one country are imposed over those of another. Questions that assume universal norms may lead to inaccuracies in surveys and censuses. These should be carefully examined and, if necessary, reformulated to reflect the prevailing norms of the region;

(d) Practical: other diverse measures may be taken to improve the quality of surveys. These include more and better training and supervision of interviewers and census workers, advertising censuses and surveys to obtain optimal participation, and avoiding sexist language and attitudes (2).

57. Time budget surveys for collecting data on non-remunerated work within the household will also contribute to improving data on women for both socio-economic and economic analysis. Using time budget survey data for Spain, estimated GDP nearly doubles if the imputed value of unpaid work within the household is incorporated into the national accounts (7). Time budget data also illustrate how changing demographics and labour force participation rates among women can affect the economy. For example, time budget surveys facilitate obtaining estimates of the value of social services produced in the home. As more women enter the labour force, services previously provided within the family may decrease or be replaced in varying degrees by purchased services. Tracing the changing patterns such as the one just described may also reveal a great deal about changes in welfare levels. Finally, time budget data may facilitate new research on equality indicators inasmuch as "working time or time for leisure become political indicators when they show clear inequality. This side of economic research has to be connected with political science and constitutional rights analysis".

3. Continuing concerns regarding indicators of social service delivery

58. Consumption of social services has an important effect on the health and welfare of large segments of developing country populations. However, traditional indicators of social service delivery, primarily based on macrolevel supply ("input") data, are ill-suited to portraying the actual quality of the services rendered or how the consumption of services differs among groups within a country, region or community. Moreover, traditional input-based indicators are becoming less informative as the public role in providing services has diminished in many countries. For the poor, especially, services previously provided by Governments have been "informalized", and consequently there is an increasingly wide gap between official statistics and the reality of the production and consumption of many essential services.

59. Papers on Latin America (11) and Morocco (1,8) pointed out the need for assessing more clearly the quality of social services. The results of a survey of social trends in nine Latin American countries over the past decade revealed an apparent paradox in the field of education: in absolute and relative terms, school enrolments at all levels increased steadily while the resources allocated to public education shrunk. The explanation is that over the same period private education expanded rapidly to meet the demands of the wealthy for higher quality education. As a result, the educational system is now bifurcated: the rich attend private schools and universities and the others are left with a deteriorating public school system. A conclusion of this research is that information reflecting the quality of the service rendered, not simply the numbers of persons with access to the service, must be collected. Countries should also collect data on the availability of services to different sectors of society with a view to protecting the interests of vulnerable or marginalized groups.

60. The Statistical Office of Morocco is now implementing a series of household surveys to assess the qualitative aspects of goods and services provided by the Government. The goal is to ascertain the extent to which the services provided satisfy the needs perceived by consumers. The degree of satisfaction expressed by consumers will then be compared to a basket of indicators which describe objectively measurable aspects of the quality and accessibility of the service provided. Thus, health, education, transportation and other public services may be assessed in terms of accessibility and quality, which are themselves defined in multidimensional terms. For example, the dimensions of accessibility may include the distance between the consumer and the distribution point of the service, and the associated costs in time, money and comfort of getting to the distribution point. Other factors such as cost of the service itself, whether public or private, and obstacles to its consumption stemming from custom or other cultural factors are also taken into account. Defining the dimensions of quality is more complicated than defining those of accessibility because of the specific characteristics of the service or item provided. For example, the quality of education would be determined by such factors as the availability and stability of teaching personnel, the nature of relations between students and teachers, the structure and schedule of courses, and the quality and availability of teaching materials.

61. The role of the informal sector in providing social services appears to be growing rapidly in developing countries that are implementing "economic liberalization" or privatization schemes (6,11,15). However, it is not known whether services offered by the informal sector truly replace those that were once provided publicly and, if so, how these differ in magnitude and quality from the services they have replaced. Answering this question may require new methods for assessing the extent and quality of essential services supplied by the informal sector. A first step in this process would be to undertake detailed case studies at the local level in order to establish the possible parameters for assessing the problem.

4. Unit of observation, levels of disaggregation and terminology

62. In the working session on conceptual issues in assessing development, several suggestions were made regarding efforts to improve the relevance of social data for tracing changes in levels of living and for monitoring the status of persons or groups for whom data have not traditionally been collected.

63. In many developing countries, economic policies and trends may have different impacts on different groups. Data are therefore needed to show change in the status of the major social groupings which are most vulnerable to external shocks. These groups include, among numerous others, informal sector workers, rural landless peasants and subsistence farmers.

64. For many welfare-related indicators, the unit of observation is the family. However, if there are concerns that resources within the family are not shared equitably for reasons of age- or gender-bias, data on individuals should be gathered.

65. Since definitions for the same concept may diverge sharply between cultures and countries, census and survey questions should be framed to reflect prevailing social, cultural and economic patterns. For example, important concepts such as "household" have a variety of meanings across cultures and should therefore be properly calibrated in censuses and surveys to reflect local conditions.

E. The role of international agencies in the collection and dissemination of development data and indicators

66. International agencies and non-governmental and intergovernmental organizations play a leading role in the development of social data and indicators. To further enhance their contributions, these organizations should find ways to:

(a) Provide additional expertise and training to statistical offices in developing countries;

(b) Promote research on appropriate concepts and methodologies, especially in newer areas;

(c) Support experimental and pilot projects which relate to low-cost methods of collecting information on key social indicators.

67. The remainder of this section outlines ongoing and proposed efforts in these areas that have not been addressed elsewhere in this report.

68. In a broad effort encompassing aspects of each of the three points above, the Statistical Division of the United Nations Secretariat, United Nations Children's Fund (UNICEF), the United Nations Population Fund (UNFPA) and the United Nations Development Programme (UNDP) have undertaken a joint effort to monitor achievement of social goals in the 1990s (18). The inter-agency group preparing this initiative has selected 28 statistical indicators for monitoring priority social and human development goals adopted in mandates of high-level intergovernmental forums such as the World Summit for Children. The applicability and availability of these indicators are being tested in pilot studies in five countries. These studies were conceived as a means of ascertaining the degree and nature of statistical and other obstacles encountered in monitoring social and human goals in individual countries. Having identified these problems, international agencies will be better able to articulate the statistical content and methodology of a full-scale programme to support the development of monitoring efforts.

69. UNDP has also launched a major effort to promote appropriate concepts and methodologies in social indicators. In publishing the Human Development Report 1990, 18/ with the human development index (HDI) as its centrepiece, UNDP has reinvigorated a long-running debate on the utility of synthetic indices for measuring development. The report is intended to draw widespread attention to important and emerging areas of concern in the theory and methods of assessing development. For example, the 1991 edition proposes indicators for measuring the extent of freedom and "human-oriented" public expenditures, and contains two alternative versions of the HDI, which take into account gender- and income-based disparities within countries.

70. Nevertheless, the HDI, which combines indicators of life expectancy, educational attainment and purchasing power-adjusted GDP per capita, remains a controversial tool for measuring development. Three of the major criticisms leveled against the HDI are that the assignment of equal weights to the three components of the index is arbitrary; the methods for computing the three indicators do not adequately reflect the phenomena being measured; and the data used are unreliable. However, several steps could be taken to solve these weighting and computation problems without abandoning the existing framework of the index. These include applying the weighting techniques of consumer price indices rather than choosing weights arbitrarily; 19/ and substituting a linear index of mortality (LIM) for life expectation at birth, an index of educational deprivation for adult literacy and a GNP-based measure of income for GDP (13).

71. A more radical proposal would be to replace the HDI with the social progress index (SPI), which combines indicators of longevity, consumption of private goods and access to public goods (5). As with the HDI, each component of the SPI is measured relative to a maximum. But where the HDI defines the maximum empirically, the SPI defines it normatively. The author of the SPI claims that it possesses three advantages over the HDI: it is a more exhaustive measure of development; it can be measured at the level of the individual; and it is easily comprehended in terms of daily human experience.

72. Data problems such as those discussed in section B also negatively affect the accuracy of the HDI. Moreover, publishing the HDI with flawed data "gives the false impression that we know the levels of these important activities in all developing and developed countries", and thereby undermines efforts to get real and timely information on mortality and education in developing countries (13). To avoid giving misleading information, future editions of the Human Development Report might include two refinements: first, they might publish only estimates based on real data without the assumed model changes or other short cut estimates; second, they might provide the dates of the most recent empirical estimates for each country and for each variable. 20/

73. WHO is currently involved in an effort to develop a "knowledge engineering" approach to the formulation of health indicators (14). This novel methodology relies on "semantic knowledge" rather than quantitative measures to assess a variety of health-related concerns. It may also prove useful in validating traditional socio-economic indicators in a number of areas other than health, and should therefore be of interest to international agencies which support social indicators research.

74. Non-governmental organizations (NGOs), research institutes and other organizations have a role to play in advancing work on social development indicators. These entities have collected valuable data which could be made available more widely. Also, they may be well suited to undertaking experimental activities in collecting and analysing information in such fields as environmental protection, human rights, democracy, ethnic and labour conflicts, etc. Determining the comparability and reliability of such data will require further attention.

75. In the working session on methodological issues in assessing development, it was noted that efforts to use indicators for analytical purposes at the inter- and intra-country level often founder because of the variability of definitions and data collection methods used to compile the indicators. Publishing the time series used for key indicators together with the definitions of the indicators and the methodologies used in collecting the data would facilitate more reliable analysis. Such information would make data users more aware of the non-comparability of certain data sets, and of the fragility of certain types of data analysis, and could form the basis of a handbook on social development data analysis.

III. RECOMMENDATIONS OF THE EXPERT MEETING

76. During the plenary session, the following recommendations, put forth by the Government of Morocco, were discussed and adopted:

(a) UNDP should continue and expand its use of qualitative indicators, including those identified at the Rabat meeting;

(b) The United Nations system should use qualitative indicators in monitoring progress in the implementation of the International Development Strategy for the Fourth United Nations Development Decade;

(c) The United Nations system and international financial institutions should make extensive use of qualitative indicators in their reports on development;

(d) Regional commissions should organize workshops aimed at disseminating the concept of qualitative indicators of development;

(e) The United Nations Statistical Commission should feature qualitative indicators of development as a permanent item in its agenda for the Fourth United Nations Development Decade;

(f) UNRISD should hold another expert meeting, in New York or Geneva, with a view to carrying forward the work on qualitative indicators of development;

(g) UNDP should consider supporting the expert meeting financially;

(h) UNRISD should submit the present report to the Economic and Social Council;

(i) The Inter-agency Working Group on Social Monitoring should consider including Morocco in the list of countries identified for the implementation of the pilot surveys on qualitative indicators of development.

Notes

1/ Donald McGranahan, Wolf Scott and Claude Richard, "Qualitative indicators of development", UNRISD Discussion Paper 15; José Trouvé, "Elements pour l'approche des indicateurs sociaux en Côte d'Ivoire, UNRISD Discussion Paper 14.

2/ Judith Heyer, Kenya: Monitoring Living Conditions and Consumption Patterns (Geneva, UNRISD, 1990); K. Sundaram and S. Tendulkar, Measurement of Living Standards in India (forthcoming).

3/ Chapter II of this document is mainly drawn from the report of the meeting of experts on qualitative indicators of development held in Rabat, Morocco in April 1991, and was prepared by UNRISD and the Statistical Division of the United Nations Secretariat at the request of the Working Group of the Statistical Commission. The complete version of the report was published by UNRISD in November 1991 under the title "Qualitative Indicators of Development: Current Concerns and Priorities".

4/ General Assembly resolutions 40/179 (1986) and 44/234 (1990); Economic and Social Council resolutions 1987/6 and 1989/4; Official Records of the Economic and Social Council, 1987, Supplement No. 6 (E/1987/19), para. 140 (e); ibid., 1989, Supplement No. 3 (E/1989/21), paras. 159 (c) and (e).

Notes (continued)

5/ As noted in McGranahan, Scott and Richard (op. cit., note 1), "typical qualitative indicators are here taken to be indicators that give the percentage of the population (or of a population group such as children or women) having or not having a defined quality, such as literacy, or meeting or not meeting a given standard of adequacy with regard to some condition of living such as food consumption. Indicators may show not only the percentage falling below a given standard but also how far below they fall; or they may simply yield a distribution along a scale with the adequacy level left for subsequent decisions. In practice, the relevant indicators are much the same as those employed in measurement of "levels of living", "basic needs", "social development" or "human development".

6/ On the third day of the meeting, three concurrent working sessions were held in order to synthesize key issues raised in the papers and to make recommendations for further work. The topics of the three sessions were: conceptual issues in assessing development; methodological issues in assessing development; and least-cost ways for improving current techniques of data collection and management.

7/ United Nations Development Programme, Human Development Report 1991 (New York and Oxford, Oxford University Press, 1991), p. 13.

8/ Although the problems of effectively presenting and disseminating data and indicators were not discussed at length during the meeting, participants took note of positive efforts that had been made in this regard, including discussions of this issue at numerous sessions of the Statistical Commission since 1976. These discussions, and the early work of the United Nations system generally in this field, are summarized in the Handbook on Social Indicators, Series F, No. 49 (United Nations publication, Sales No. E.89.XVII.6). A comprehensive presentation of available data and of ongoing issues in this field is contained in the Compendium of Social Statistics and Indicators 1988 (United Nations publication, Sales No. E/F.91.XVII.6).

9/ For example, recent publications by a relatively sophisticated statistical office in an African country contain conflicting entries on the same item at different locations in the same volume.

10/ This number is misleading, however, as many of the developing countries with complete vital registration systems are small islands.

11/ It should be noted, however, that Kenya has had one of the stronger statistical programmes in sub-Saharan Africa over the past three decades.

12/ The recommendations presented in this section are based on those contained in the report of the working session on methodological issues in assessing development.

Notes (continued)

13/ It was noted (18) that outstanding achievements in software have virtually revolutionized both processing and analysis of data. Notable software advances include MORTPACK for mortality estimation: EASWESPOP for fertility analysis; IMPS (Integrated Microcomputer Processing System); PC-CARP for standard error and regression estimation; CLUSTERS for standard error analysis; ISSA (Integrated System for Survey Analysis) and U-SP for survey processing.

14/ In the absence of the representative of the World Bank, comments on the SDA programme by participants were more limited than they might otherwise have been.

15/ These were significant at the .01 level when the average between the current and one-year lagged value was used.

16/ Useful data and indicators can be obtained for many disparate purposes and for specific localities or situations. This list is by no means exhaustive; it merely indicates the variety of concerns expressed by participants in the working session on "Conceptual issues in assessing development".

17/ Published in the Human Development Report 1991.

18/ United Nations Development Programme, Human Development Report 1990 (New York and London, Oxford University Press, 1990).

19/ This is the comment of a participant in the meeting.

20/ A representative of UNDP who attended the meeting in Rabat pointed out that the Human Development Report 1991 (not yet published at the time of the meeting) had responded to the plea to minimize the use of short-cut estimates. He also remarked that current and future reports would continue to highlight for the international community the gaps and weaknesses in social indicators and the need for improving social statistics.

Annex

PAPERS PRESENTED AT THE MEETING OF EXPERTS ON QUALITATIVE INDICATORS OF DEVELOPMENT

(Rabat, Morocco, 8-11 April 1991)

Keynote address

Mahbub ul Haq and Inge Kaul
United Nations Development Programme (UNDP), New York
"Measuring Human Development: A Note on Data Requirements"

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Papers

1. Mohamed Abzahd
   Statistical Office, Government of Morocco, Rabat

   "Collecte des données pour la mesure des niveaux de vie: Aspects méthodologiques et recherche des indicateurs sociaux"

2. Lourdes Benería
   Cornell University, Ithaca, New York, United States of America

   "The measurement of women's economic activities: assessing the theoretical and practical work of two decades"

3. Ahmed Benrida and Tae Ho Yoo
   Ministry of Planning, Government of Morocco, Rabat and United Nations Educational, Scientific and Cultural Organization (UNESCO), respectively

   "Framework of human resources development indicators for Morocco"

4. Richard Bilsborrow*
   University of North Carolina, Chapel Hill, United States of America

   "A review of low-cost data collection techniques and recommendations for RASP"

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* Author did not attend the meeting but paper was presented by another participant.

5. Meghnad Desai
London School of Economics and Political Science, London

"Issues in the construction of composite indicators"

6. Jennie Dey-Abbas and R. Gaiha
Food and Agriculture Organization of the United Nations (FAO), Rome

"The use of socio-economic indicators for evaluating progress in implementing the programme of action of the world conference on agrarian reform and rural development"

7. María-Angeles Duran
Catedrática de Sociología, Madrid

"The contribution of domestic work to development"

8. Naima Ghemires
Statistical Office, Government of Morocco, Rabat

"Aspects qualitatifs du développement: indicateurs et schémas de consommation"

9. Christiaan Grootaert*
World Bank, Washington, D.C.

"Indicators for monitoring the social dimensions of adjustment"

10. Judith Heyer
Oxford University, Oxford, United Kingdom

"Issues involved in the organisation of official programmes to monitor living conditions in sub-Saharan African countries"

11. Rubén Kaztman and Pascual Gerstenfeld
Economic Commission for Latin America and the Caribbean (ECLAC), Santiago, Chile

"Complexities in the evaluation of social development in Latin America during the crisis of the 1980s"

12. B. Mansourian
World Health Organization (WHO), Geneva, Switzerland

"Monitoring Health and Development"

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* Author did not attend the meeting but paper was presented by another participant.

13. Christopher J. L. Murray*
Harvard University, Cambridge, United States of America

"Development data constraints and the human development index"

14. B. McA. Sayers
Imperial College of Science, Technology and Medicine, London

"A knowledge engineering approach to new health-related indicators"

15. Venkatesh Seshamani
University of Zambia, Lusaka

"Socio-economic indicators for monitoring the development impact of Zambia's adjustment programmes"

16. K. Sundaram and Suresh D. Tendulkar*
University of Delhi, New Delhi

"National sample surveys on consumer expenditure and living standard measurement in India"

17. Hamid Tabatabai
International Labour Office, Geneva, Switzerland

"Poverty monitoring in the rural sector"

18. Statistical Division of the United Nations Secretariat, New York, New York

"Report on progress made in the development of a co-ordinated United Nations system data base for selected social statistics and indicators of common interest and the development of related national data bases"

19. Hirofumi Uzawa
The Japan Academy, Tokyo

"Equity and evaluation of environmental destruction"

20. Tatu Vanhanen
University of Tampere, Tampere, Finland

"Construction and use of an index of democracy"

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* Authors did not attend meeting. Paper was distributed to participants.